

**PROPOSED USE OF THE PLENARY POWERS TO DESIGNATE A TYPE SPECIES FOR THE GENUS "HETERANDRIA" AGASSIZ, 1853 (CLASS OSTEICHTHYES, ORDER CYPRINODONTIDA) IN HARMONY WITH CURRENT USAGE**

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The object of the present application is to invite the International Commission on Zoological Nomenclature to use its plenary powers for the purpose of designating as the type species of the genus *Heterandria* Agassiz, 1853 (Class Osteichthyes, Order Cyprinodontida, Family POECILIIDAE) a species in harmony with current usage and thus to prevent the confusion resulting from the transfer of this generic name to a different genus which would be necessary under a strict application of the normal provisions of the *Règles*. The history of this case and the details of the proposals now submitted are given in the following paragraphs.

2. Recent authors have regarded the genus *Heterandria* Agassiz, 1853 (July), *Amer. J. Sci. Arts* (2) **16**: 135) as comprising only the single species *Heterandria formosa* Agassiz, 1855 (*Amer. J. Sci. Arts* (2) **19**: 136), a tiny poeciliid fish from the south-eastern United States. Agassiz gave a definition for this genus but did not cite any nominal species as belonging to it.

3. Up to 1948 it would have been necessary to determine the species to be regarded as having been originally included in this genus (and thus as being eligible for selection as the type species) in accordance with the procedure laid down in the Commission's *Opinion* 46 (1912, *Smithson. Publ.* **2060** : 104-107), but in that year the International Congress of Zoology at its Paris meeting substituted a revised and simplified method for determining the species to be regarded as the type species of a nominal genus established without cited nominal species (1950, *Bull. zool. Nomencl.* **4**: 159-160, 346). Under this decision the species first referred to such a genus by a later author is, or are, the only species which are to be treated as having been originally included species and therefore as being eligible for selection as the type species of the genus concerned; where only one such species was so cited, that species becomes the type species of the genus by monotypy.

4. The first authors to refer any nominal species to the genus *Heterandria* Agassiz were Baird and Girard who in 1853 (September) (*Proc. Acad. nat. Sci. Philad.* **6** : 390) described four new nominal species as belonging to this genus. These species were *H. affinis* : *H. nobilis* : *H. patruelis* (now regarded as a subjective synonym of *affinis*) ; *H. occidentalis*. Under the ruling referred to in paragraph 3 above, these nominal species are alone eligible for selection as the type species of *Heterandria* Agassiz.

5. Of the four nominal species cited above, the first three are currently considered to be congeneric with *Gambusia punctata* Poey, 1854 (*Mém. Hist.*

*nat. Cuba* 1 : 384), the type species, by selection by Jordan & Copeland (1876, *Bull. Buffalo Soc. nat. Sci.* 3 : 142) of the genus *Gambusia* Poey, 1854 (*Mém. Hist. nat. Cuba* 1 : 382). The fourth species (*H. occidentalis*) is regarded as being congeneric with *Poecilia presidionis* Jordan & Culver, 1895 (*Proc. Calif Acad. Sci.* (2) 5 : 413), the type species, by selection by Henn (1916, *Ann. Carnegie Mus.* 10 : 119), of the genus *Poeciliopsis* Regan, 1913 (*Proc. zool. Soc. Lond.* 1913 : 996).

6. Thus, the strict application of the ordinary rules in this case would lead to the transfer of the generic name *Heterandria* Agassiz from the genus for which it is always employed (the genus typified by *H. formosa* Agassiz, 1855) either to the genus now known as *Gambusia* Poey, 1854, or to the genus now known as *Poeciliopsis* Regan, 1913. At the same time a new name would be required for the genus to be used for *H. formosa*. It must further be noted that either of the above changes would lead to serious disturbance in nomenclature at the tribe and subfamily name level. (1) The genus *Gambusia* Poey is the type genus of the tribe GAMBUSIINI Hubbs, 1924 (*Misc. Publ. Mus. Zool. Univ. Mich.* 13 : 7). (2) It is the type genus also of the subfamily GAMBUSINAE Gill, 1893 (*Nat. Acad. Sci.* 6 : 133). (3) The genus *Heterandria* Agassiz is the type genus of the tribe HETERANDRIINI Hubbs, 1924 (*Misc. Publ. Mus. Zool. Univ. Mich.* 13 : 7). (4) The genus *Poeciliopsis* Regan is the type genus of the subfamily POECILOPSINAE Hubbs, 1924 (*ibid.* 13 : 9).

7. The genus *Gambusia* is a rather large genus and is now almost cosmopolitan owing to the widespread introductions which have been made in various areas as a measure of mosquito control. The genus *Poeciliopsis* contains about six species, which are distributed on the Pacific slope from Arizona to Colombia.

8. In view of the widespread confusion which would follow the strict application of the normal rules in this case, it is here proposed that the Commission should intervene by using its plenary powers to give valid force to the present practice by which *H. formosa* Agassiz is recognised as the type species of the genus *Heterandria* Agassiz. The following ichthyologists have been consulted on this problem and support the present application :—

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|------------------------|-------------------------------------------------------------------------------------------|
| Dr. William A. Gosline | Department of Zoology and Entomology, University of Hawaii, Honolulu, Territory of Hawaii |
| Dr. Carl L. Hubbs      | Scripps Institution of Oceanography, La Jolla California                                  |
| Dr. Robert R. Miller   | Museum of Zoology, University of Michigan, Ann Arbor, Michigan                            |
| Dr. George S. Myers    | Natural History Museum, Stanford University, California.                                  |
| Dr. Luis Rene Rivas    | Department of Zoology, University of Miami, Miami, Florida                                |
| Dr. Leonard P. Schultz | U.S. National Museum, Washington, D.C.                                                    |

9. The concrete proposals now submitted are that the International Commission on Zoological Nomenclature should :—

- (1) use its plenary powers to set aside any designations or selections of type species for the genus *Heterandria* Agassiz, 1853, made prior to the decision now proposed to be taken and to designate *Heterandria formosa* Agassiz, 1855, to be the type species of the foregoing genus ;
- (2) place the following generic names on the *Official List of Generic Names in Zoology* :—
  - (a) *Heterandria* Agassiz, 1853 (gender of generic name : feminine) (type species, by designation under the plenary powers, as proposed in (1) above : *Heterandria formosa* Agassiz, 1855) ;
  - (b) *Gambusia* Poey, 1854 (gender of generic name : feminine) (type species, by selection by Jordan & Copeland (1876) : *Gambusia punctata* Poey, 1854) ;
  - (c) *Poeciliopsis* Regan, 1913 (gender of generic name : feminine) (type species, by selection by Henn (1916) : *Poecilia presidionis* Jordan & Culver, 1895) ;
- (3) place the following trivial names on the *Official List of Specific Trivial Names in Zoology* :—
  - (a) *formosa* Agassiz, 1855 (as published in the binominal combination *Heterandria formosa*) (trivial name of type species of *Heterandria* Agassiz, 1853) ;
  - (b) *punctata* Poey, 1854 (as published in the binominal combination *Gambusia punctata*) (trivial name of type species of *Gambusia* Poey, 1854) ;
  - (c) *presidionis* Jordan & Culver, 1895 (as published in the binominal combination *Poecilia presidionis*) (trivial name of type species of *Poeciliopsis* Regan, 1913).